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OM protein - protein search, using sw model

Run On: February 13, 2002, 10:08:22 : Search time 23.86 Seconds  
(without alignments)  
58.985 Million cell updates/sec

Title: US-09-486-094-12  
Perfect score: 51  
Sequence: 1 CXXXXXXCXXXXXXCXXC 19

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 522463 seqs, 74073290 residues

Total number of hits satisfying chosen parameters: 522463

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : A\_Geneseq\_1101.\*

- 1: /SID58/gcgdata/geneseq/geneseq/AA1980.DAT.\*
- 2: /SID58/gcgdata/geneseq/geneseq/AA1981.DAT.\*
- 3: /SID58/gcgdata/geneseq/geneseq/AA1982.DAT.\*
- 4: /SID58/gcgdata/geneseq/geneseq/AA1983.DAT.\*
- 5: /SID58/gcgdata/geneseq/geneseq/AA1984.DAT.\*
- 6: /SID58/gcgdata/geneseq/geneseq/AA1985.DAT.\*
- 7: /SID58/gcgdata/geneseq/geneseq/AA1986.DAT.\*
- 8: /SID58/gcgdata/geneseq/geneseq/AA1987.DAT.\*
- 9: /SID58/gcgdata/geneseq/geneseq/AA1988.DAT.\*
- 10: /SID58/gcgdata/geneseq/geneseq/AA1989.DAT.\*
- 11: /SID58/gcgdata/geneseq/geneseq/AA1990.DAT.\*
- 12: /SID58/gcgdata/geneseq/geneseq/AA1991.DAT.\*
- 13: /SID58/gcgdata/geneseq/geneseq/AA1992.DAT.\*
- 14: /SID58/gcgdata/geneseq/geneseq/AA1993.DAT.\*
- 15: /SID58/gcgdata/geneseq/geneseq/AA1994.DAT.\*
- 16: /SID58/gcgdata/geneseq/geneseq/AA1995.DAT.\*
- 17: /SID58/gcgdata/geneseq/geneseq/AA1996.DAT.\*
- 18: /SID58/gcgdata/geneseq/geneseq/AA1997.DAT.\*
- 19: /SID58/gcgdata/geneseq/geneseq/AA1998.DAT.\*
- 20: /SID58/gcgdata/geneseq/geneseq/AA1999.DAT.\*
- 21: /SID58/gcgdata/geneseq/geneseq/AA2000.DAT.\*
- 22: /SID58/gcgdata/geneseq/geneseq/AA2001.DAT.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	ID	Description
1	30	58.8	81	20	AAV48268 Human prostate can
2	30	58.8	1081	20	AAV24319 Mouse dephosphoryl
3	29	56.9	24	22	AAV92218 Toxin peptide SEQ
4	29	56.9	233	21	AAV74791 Neisseria meningit
5	28	54.9	462	18	AAW09876 Arabidopsis violax
6	28	54.9	473	18	AAW09874 Romanine lettuce vi
7	28	54.9	478	18	AAW09875 Tobacco violaxanth
8	27	52.9	79	21	AAV64946 Human 5' EST relat
9	27	52.9	144	22	AAW25276 Human protein sequ
10	27	52.9	403	22	AAE01547 Human gene 2 encod
11	27	52.9	428	22	AAE88585 Human hydrophobic

12	27	52.9	430	22	AAE01633 Human gene 10 enco
13	27	52.9	741	22	AAV95002 Human protein sequ
14	27	52.9	4544	15	AAV47861 Alpha 2-Macroglobu
15	27	52.9	4544	15	AAV60517 Human alpha-2-MR.
16	26	51.0	29	9	AAV81739 Sequence of novel
17	26	51.0	57	21	AAV57813 Crab metallothione
18	26	51.0	70	20	AAV59982 Human endometrium
19	26	51.0	102	21	AAV41641 Human OREF ORF1405
20	26	51.0	154	13	AAV24082 Truncated TNF-alpha
21	26	51.0	154	21	AAV94711 Tumour necrosis fa
22	26	51.0	158	13	AAV24081 Truncated TNF-alpha
23	26	51.0	159	13	AAV24083 Truncated TNF-alpha
24	26	51.0	161	13	AAV27496 Native 30 kD TNF i
25	26	51.0	161	19	AAV59664 Human soluble tumo
26	26	51.0	161	19	AAV52267 Soluble tumour nec
27	26	51.0	161	20	AAV89233 Tumour necrosis in
28	26	51.0	161	22	AAV37676 Human 30 kDa TNF i
29	26	51.0	166	14	AAV34683 tPA signal peptide
30	26	51.0	169	21	AAV43505 Human cancer assoc
31	26	51.0	197	21	AAV21179 Exo3-8 partial pro
32	26	51.0	199	13	AAV24080 Truncated TNF-alpha
33	26	51.0	211	20	AAV89225 Tumour necrosis fa
34	26	51.0	246	19	AAV53007 Mus musculus I-mfa
35	26	51.0	248	21	AAV18331 Plasmodium falcipa
36	26	51.0	280	22	AAV66979 TNF-R-GBPH fusion
37	26	51.0	309	16	AAV70108 Tumour necrosis fa
38	26	51.0	311	20	AAV89229 TNF(20-190)/HCG-be
39	26	51.0	336	18	AAV33360 Human PRO-C-MG.64
40	26	51.0	344	22	AAE02778 Human EGF-like pro
41	26	51.0	348	20	AAV08490 Human EGF-like pro
42	26	51.0	350	20	AAV08066 Tumour necrosis fa
43	26	51.0	366	20	AAV89228 Tumour Necrosis Fa
44	26	51.0	371	11	AAV07449 Human polypeptide
45	26	51.0	374	22	AAW40934

ALIGNMENTS

RESULT 1  
AAV48268  
ID AAV48268 standard; Protein: 81 AA.  
NC AAV48268;  
XX 08-DEC-1999 (first entry)  
DF Human prostate cancer-associated protein 54.  
DE Expressed sequence tag; EST; prostate tumor; antitumor; treatment;  
KW gene therapy; tissue specificity human.  
OS Homo sapiens.  
XX DE19811193-A1.  
XX 16-SEP-1999.  
XX 10-MAR-1998; 98DE-1011193.  
XX 10-MAR-1998; 98DE-1011193.  
XX (META-) METAGEN GES GENOMFORSCHUNG MBH.  
XX Specht T, Hinzmann B, Schmitt A, Pilarsky C, Dahl E, Rosenthal A;  
XX WPI; 1999-519628/44.  
XX N-PSDB; AA233467.  
XX New nucleic acid expressed at high level in prostatic tumor tissue and  
XX encoded polypeptides, useful for treating cancer and screening for  
XX therapeutic agents

PS Claim 22; 137; 166pp; German.

CC This invention describes novel nucleic acid sequences (A) that are expressed at high level in prostatic tumor tissue and encode gene products or their fragments. The products of the invention have antitumor activity. Polypeptides (I) encoded by (A) are used: (i) for identifying agents for treatment of prostatic cancer and (ii) for therapy of prostate cancer, optionally where expressed by gene therapy methods. (A) is also used to isolate full-length genes (for gene therapy) and for recombinant production of (I), which can be used to raise specific antibodies. (A) are identified by assembly of ESTs (expressed sequence tags) before they are analyzed for expression pattern (tissue specificity). This approach eliminates many of the false results, as regards tissue specificity, associated with known methods that use single (usually short) ESTs. AAY48215-V48303 represent protein fragments encoded by the expressed sequence tags described in the method of the invention.

XX Sequence 81 AA;

Query Match 58.8%; Score 30; DB 20; Length 81;  
Best Local Similarity 23.5%; Pred. No. 35;  
Matches 4; Conservative 0; Mismatches 13; Indels 0; Gaps 0;

QY 2 CXXXXXXCXXXXXXC 18  
| | | | |  
DB 8 CSSSSCSWPTSCWSTC 24

RESULT 2  
AAY24319  
ID AAY24319 standard; Protein; 1081 AA.  
AC AAY24319;  
XX  
DT 16-SEP-1999 (first entry)  
XX  
DE Mouse dephosphorylase inhibiting p91-like protein #2.  
XX  
KW Dephosphorylase inhibiting protein; p91; tyrosine phosphatase SHP-1;  
KW SHP-2; inositol-5-phosphate SHP; phosphorylating tyrosine;  
KW Immunoreceptor; immunomodulatory agent.  
OS Mus sp.  
XX JF11169184-A.  
PN  
XX 29-JUN-1999.  
XX  
PF 12-DEC-1997; 97JP-0362285.  
XX  
PR 12-DEC-1997; 97JP-0362285.  
XX  
PA (UYOK-) UNIV OKAYAMA.  
XX  
XX WPI; 1999-422622/36.  
DR  
DR N-PSDB; AAX68976.  
XX  
XX New peptide - useful for inhibiting dephosphorylase  
PT  
PS Claim 2; Page 15-17; 30pp; Japanese.  
XX  
XX The present invention describes new proteins for inhibiting dephosphorylase. The proteins can be combined with tyrosine phosphatase SHP-1, SHP-2 or inositol-5-phosphatase SHP by phosphorylating tyrosine. CC  
CC The present invention also describes an immunoreceptor comprising one CC  
CC the above proteins, and DNA coding the above proteins. The new proteins CC  
CC can be used as an immunomodulatory agent. The present sequence CC  
CC represents a protein from the present invention.  
XX  
SQ Sequence 1081 AA;

Query Match 58.8%; Score 30; DB 20; Length 1081;  
Best Local Similarity 23.5%; Pred. No. 59;  
Matches 4; Conservative 0; Mismatches 13; Indels 0; Gaps 0;

QY 2 CXXXXXXCXXXXXXC 18  
| | | | |  
DB 197 cysygacaggaacagac 213

RESULT 3  
AAB92218  
ID AAB92218 standard; Peptide; 24 AA.  
XX  
AC AAB92218;  
XX  
DT 22-JUN-2001 (first entry)  
XX  
DE Toxin peptide SEQ ID NO:1394.  
XX  
KW Protection; endogenous therapeutic peptide; peptidase; conjugation;  
KW blood component; modification; succinimidyl; maleimido group; amino;  
KW hydroxyl; thiol; hormone; growth factor; neurotransmitter.  
XX  
OS Homo sapiens.  
OS Synthetic.  
XX  
PN WC200069900-A2.  
XX  
PD 23-NOV-2000.  
XX  
PF 17-MAY-2000; 2000WO-US13576.  
XX  
PR 17-MAY-1999; 99US-0134406.  
PR 10-SEP-1999; 99US-0153406.  
PR 15-OCT-1999; 99US-0159783.  
XX  
XX (CONJ-) CONJUCHEM INC.  
PA  
XX Bridon BP, Ezrin AM, Milner PG, Holmes DL, Thibaudeau K;  
XX WPI; 2001-112059/12.  
XX  
XX Modifying and attaching therapeutic peptides to albumin prevents  
PT peptidase degradation, useful for increasing length of in vivo activity  
PT  
XX  
PS Disclosure; Page 652; 733pp; English.  
XX  
XX The present invention describes a modified therapeutic peptide (I) comprising a therapeutically active amino acid region (III) and a reactive group (II) (e.g. succinimidyl and maleimido groups) attached to a less therapeutically active amino acid region (IV), which covalently bonds with amino/hydroxyl/thiol groups on blood components to form a CC  
CC peptidase stabilised therapeutic peptide composed of 3-50 amino acids. CC  
CC (I) are useful for modifying therapeutic peptides e.g. hormones, growth CC  
CC factors and neurotransmitters, to protect them from peptidase activity CC  
CC in vivo for the treatment of various disorders. Endogenous therapeutic CC  
CC peptides are not suitable as drug candidates as they require frequent CC  
CC administration due to rapid degradation by peptidases in the body. CC  
CC Modifying and attaching therapeutic peptides to albumin prevents or CC  
CC reduces the action of peptidases to increase length of activity (half CC  
CC life) and specificity as bonding to large molecules decreases CC  
CC intracellular uptake and interference with physiological processes. CC  
CC AAB90829 to AAB92441 represent peptides which can be used in the CC  
CC exemplification of the present invention.  
XX  
XX Sequence 24 AA;

Query Match 56.9%; Score 29; DB 22; Length 24;  
Best Local Similarity 23.5%; Pred. No. 42;  
Matches 4; Conservative 0; Mismatches 13; Indels 0; Gaps 0;

QY 2 CXXXXXXCXXXXXXC 18  
 | | | | |  
 Db 1 ckgsscstsynccrsc 17

## RESULT 4

AAV74791  
 ID AAY74791 standard; Protein; 233 AA.

XX AC AAV74791;

XX DT 21-MAR-2000 (first entry)

XX DE Neisseria meningitidis ORF 263 protein sequence SEQ ID NO:1056.

XX KW Neisseria meningitidis; Neisseria gonorrhoeae; antigen; vaccine;  
 KW antigenic; diagnosis; immunogenic; infection; meningitis; septicemia;  
 KW antibacterial; gene therapy.

XX OS Neisseria meningitidis.

XX PN W0957280-A2.

XX PD 11-NOV-1999.

XX PF 30-APR-1999; 99WO-US09346.

XX PR 01-MAY-1998; 98US-0083758.

XX PR 31-JUL-1998; 98US-0094869.

XX PR 02-SEP-1998; 98US-0098994.

XX PR 09-SEP-1998; 98US-0099062.

XX PR 09-OCT-1998; 98US-0103749.

XX PR 09-OCT-1998; 98US-0103794.

XX PR 09-OCT-1998; 98US-0103796.

XX PR 25-FEB-1999; 99US-0121528.

XX (CHIR ) CHIRON CORP.

XX (GENO-) INST GENOMIC RES.

XX PI Fraser C, Galeotti C, Grandi G, Hickey E, Masignani V, Mora M;

XX PI Petersen J, Pizza M, Rappuoli R, Ratti G, Scalato E, Scarselli M;

XX PI Tettelin H, Venter JC;

XX WPI: 2000-062150/05.

XX N-PSDB; AA253553.

XX Novel Neisserial polypeptides predicted to be useful antigens for  
 PT vaccines and diagnostics -  
 XX Claim 2; Page 606; 1453pp; English.  
 XX AAZ53015 to AAZ54536, AAZ54577 to AAZ54615, and AAZ74253 to AAY75941  
 CC represent novel Neisseria meningitidis and N. gonorrhoeae polynucleotides  
 CC and polypeptides. AAZ54537 to AAZ54576 and AAZ54616 to AAZ5473 represent  
 CC PCR primers used in the exemplification of the present invention. The  
 CC polypeptides, the polynucleotides, antibodies and compositions of  
 CC the invention can be used as vaccines, as diagnostic reagents, and as  
 CC immunogenic compositions. The polypeptides can be used in the  
 CC manufacture of medicaments for treating or preventing infection due to  
 CC Neisserial bacteria (e.g. meningitis and septicemia), to detect the  
 CC presence of Neisseria bacteria, or to raise antibodies. They may also  
 CC be used to screen for agonists or antagonists, which may themselves  
 CC have use as antibacterial agents. The polynucleotides of the invention  
 CC may also be used in gene therapy protocols.

XX SQ Sequence 233 AA;

Query Match 56.9%; Score 29; DB 21; Length 233;  
 Best Local Similarity 23.5%; Pred. No. 67;  
 Matches 4; Conservative 0; Mismatches 13; Indels 0; Gaps 0;

QY 2 CXXXXXXCXXXXXXC 18  
 | | | | |  
 Db 173 caactacgtcaacaacc 189

## RESULT 5

AAW09876  
 ID AAW09876 standard; Protein; 462 AA.

XX AC AAW09876;

XX DT 28-JUL-1997 (first entry)

XX DE Arabidopsis violaxanthin de-epoxidase.

XX KW Violaxanthin de-epoxidase; VDE; light; photosensitivity;  
 KW photoprotection; transgenic plant; zeaxanthin; antheraxanthin;  
 KW xanthophyll.

XX OS Arabidopsis thaliana var. columbia.

XX FH Key Location/Qualifiers

XX FT Peptide 1..113

XX FT /label= Transit\_peptide

XX FT Protein 114..462

XX FT /label= Mat\_protein

XX FT Peptide 114..126

XX FT /note= "Claim 8"

XX FT Domain 114..185

XX FT /label= Cys-rich\_domain

XX FT Domain 364..462

XX FT /label= Highly-charged\_domain

XX FT Misc-difference 120

XX FT /note= "conserved Cys residue"

XX FT Misc-difference 122

XX FT /note= "conserved Cys residue"

XX FT Misc-difference 127

XX FT /note= "conserved Cys residue"

XX FT Misc-difference 134

XX FT /note= "conserved Cys residue"

XX FT Misc-difference 140

XX FT /note= "conserved Cys residue"

XX FT Misc-difference 146

XX FT /note= "conserved Cys residue"

XX FT Misc-difference 150

XX FT /note= "conserved Cys residue"

XX FT Misc-difference 159

XX FT /note= "conserved Cys residue"

XX FT Misc-difference 163

XX FT /note= "conserved Cys residue"

XX FT Misc-difference 178

XX FT /note= "conserved Cys residue"

XX FT Misc-difference 185

XX FT /note= "conserved Cys residue"

XX FT Misc-difference 231

XX FT /note= "conserved Cys residue"

XX FT Misc-difference 362

XX FT /note= "conserved Cys residue"

XX W09717447-A2.

XX 15-MAY-1997.

XX 07-NOV-1996; 96WO-US18291.

XX 06-AUG-1996; 96US-0023502.

XX 07-NOV-1995; 95US-0006315.

XX (CALJ ) CALGENE INC.

XX Bugos RC, Rockholm DC, Yamamoto HY;

XX WPI; 1997-281036/25.

DR N-PSDB; AAT66243.  
 XX DNA encoding plant violaxanthin de-epoxidase - used to modify the  
 PT sensitivity of a plant to light  
 XX  
 PS Disclosure; Fig 3; 4lpp; English.  
 XX  
 CC The violaxanthin de-epoxidase (VDE) (AAW09876) of Arabidopsis  
 CC catalyses the de-epoxidation of violaxanthin to zeaxanthin and  
 CC antheraxanthin. This system, termed energy dependent non-radiative  
 CC energy dissipation or non-photochemical fluorescence quenching,  
 CC reduces the quantum efficiency of photosystem II (PSII), helping to  
 CC prevent PSII over-reduction and photoinhibitory damage. The amino  
 CC acid sequence of the VDE was deduced from an isolated cDNA clone  
 CC (AAT66243). VDE nucleic acids (see also AAT6241-42), in sense or  
 CC antisense orientation, can be used in genetic constructs to modify  
 CC VDE levels in plants. Increased levels result in the plant being  
 CC tolerant of increased light and therefore more productive and/or  
 CC more resistant to disease. Underexpression of VDE increases  
 CC photosynthetic efficiency under low light. The photosensitivity of  
 CC a range of crops, trees and ornamentals can be modified.  
 XX  
 SQ Sequence 462 AA;

Query Match 54.9%; Score 28; DB 18; Length 462;  
 Best Local Similarity 23.5%; Pred. No. 1.2e+02;  
 Matches 4; Conservative 0; Mismatches 13; Indels 0; Gaps 0;

QY 2 CXXXXXXCXXXXCXXXXC 18  
 Db 134 cianpacaanvaciqtc 150

## RESULT 6

RAW09874  
 ID AAW09874 standard; Protein; 473 AA.

AC AAW09874;

XX 28-JUL-1997 (first entry)

XX Romaine lettuce violaxanthin de-epoxidase.

XX Violaxanthin de-epoxidase; VDE; light; photosensitivity;  
 KW photoprotection; transgenic plant; zeaxanthin; antheraxanthin;  
 KW xanthophyll; lettuce.

OS Lactuca sativa L. cv. romaine.

XX Key Location/Qualifiers  
 FH Peptide 1..125  
 FT /label= Transit\_peptide  
 FT Protein 126..473  
 FT /label= Mat\_protein  
 FT Peptide 126..138  
 FT /note= "Claim 8"  
 FT Domain 126..197  
 FT /label= Cys-rich\_domain  
 FT Peptide 218..231  
 FT /label= Lipocalin\_signature  
 FT Domain 376..473  
 FT /label= Highly-charged\_domain  
 FT Peptide 265..272  
 FT /label= Tryptic\_peptide-11  
 FT Peptide 275..289  
 FT /label= Tryptic\_peptide-21  
 FT Peptide 341..353  
 FT /label= Tryptic\_peptide-15  
 FT Misc-difference 132  
 FT /note= "conserved Cys residue"  
 FT Misc-difference 134  
 FT /note= "conserved Cys residue"

FT Misc-difference 139 /note= "conserved Cys residue"  
 FT Misc-difference 146 /note= "conserved Cys residue"  
 FT Misc-difference 152 /note= "conserved Cys residue"  
 FT Misc-difference 158 /note= "conserved Cys residue"  
 FT Misc-difference 162 /note= "conserved Cys residue"  
 FT Misc-difference 171 /note= "conserved Cys residue"  
 FT Misc-difference 175 /note= "conserved Cys residue"  
 FT Misc-difference 190 /note= "conserved Cys residue"  
 FT Misc-difference 197 /note= "conserved Cys residue"  
 FT Misc-difference 243 /note= "conserved Cys residue"  
 FT Misc-difference 243 /note= "conserved Cys residue"  
 FT Misc-difference 373 /note= "conserved Cys residue"  
 XX

W09717447-A2.

XX 15-MAY-1997.

XX 07-NOV-1996; 96WO-US18291.

PR 06-AUG-1996; 96US-0023502.

PR 07-NOV-1995; 95US-0006315.

XX (CALJ ) CALGENE INC.

XX Bugos RC, Rockholm DC, Yamamoto HY;

XX WPI; 1997-281036/25.

DR N-PSDB; AAT66241.

PT DNA encoding plant violaxanthin de-epoxidase - used to modify the  
 XX sensitivity of a plant to light

PS Example 1; Fig 1; 4lpp; English.

XX The 55 kDa violaxanthin de-epoxidase (VDE) (AAW09874) of romaine  
 CC lettuce catalyses the de-epoxidation of violaxanthin to zeaxanthin  
 CC and antheraxanthin. This system, termed energy dependent  
 CC non-radiative energy dissipation or non-photochemical fluorescence  
 CC quenching, reduces the quantum efficiency of photosystem II (PSII)  
 CC helping to prevent PSII over-reduction and photoinhibitory damage.  
 CC The amino acid sequence of the VDE was deduced from an isolated  
 CC cDNA clone (AAT66241). VDE nucleic acids (see also AAT6242-43), in  
 CC sense or antisense orientation, can be used in genetic constructs  
 CC to modify VDE levels in plants. Increased levels result in the  
 CC plant being tolerant of increased light and therefore more  
 CC productive and/or more resistant to disease. Underexpression of  
 CC VDE increases photosynthetic efficiency under low light. The  
 CC photosensitivity of a range of crops, trees and ornamentals can be  
 CC modified.

XX Sequence 473 AA;

Query Match 54.9%; Score 28; DB 18; Length 473;  
 Best Local Similarity 23.5%; Pred. No. 1.2e+02;  
 Matches 4; Conservative 0; Mismatches 13; Indels 0; Gaps 0;

QY 2 CXXXXXXCXXXXCXXXXC 18

Db 146 cianpacaanvaciqtc 162

RESULT 7

AAW09875  
ID AAW09875 standard; Protein; 478 AA.  
XX AC AAW09875;  
XX DT 28-JUL-1997 (first entry)  
XX DE Tobacco violaxanthin de-epoxidase.  
XX KW Violaxanthin de-epoxidase; VDE; light; photosensitivity;  
KW photoprotection; transgenic plant; zeaxanthin; antheraxanthin;  
KW xanthophyll; tobacco.  
XX OS Nicotiana tabacum cv. xanthi.  
XX FH Key Location/Qualifiers  
FT Peptide 1..134  
FT /label= Transit\_peptide  
FT Protein 135..478  
FT /label= Mat\_protein  
FT Peptide 135..147  
FT /note= "Claim 8"  
FT Domain 135..206  
FT /label= Cys-rich\_domain  
FT Domain 385..478  
FT /label= Highly-charged\_domain  
FT Misc-difference 141  
FT /note= "conserved Cys residue"  
FT Misc-difference 143  
FT /note= "conserved Cys residue"  
FT Misc-difference 148  
FT /note= "conserved Cys residue"  
FT Misc-difference 155  
FT /note= "conserved Cys residue"  
FT Misc-difference 161  
FT /note= "conserved Cys residue"  
FT Misc-difference 167  
FT /note= "conserved Cys residue"  
FT Misc-difference 171  
FT /note= "conserved Cys residue"  
FT Misc-difference 180  
FT /note= "conserved Cys residue"  
FT Misc-difference 184  
FT /note= "conserved Cys residue"  
FT Misc-difference 190  
FT /note= "conserved Cys residue"  
FT Misc-difference 206  
FT /note= "conserved Cys residue"  
FT Misc-difference 252  
FT /note= "conserved Cys residue"  
FT Misc-difference 382  
FT /note= "conserved Cys residue"  
XX WO9717447-A2.  
XX 15-MAY-1997.  
XX PD 07-NOV-1996; 96WO-US18291.  
XX PF 06-AUG-1996; 96US-0023502.  
XX PR 07-NOV-1995; 95US-0006315.  
XX (CALJ ) CALGENE INC.  
XX PA Bugos RC, Rockholm DC, Yamamoto HY;  
XX PI  
XX DR WPI; 1997-281036/25.  
XX DR N-PSDB; AAT66242.  
XX DNA encoding plant violaxanthin de-epoxidase - used to modify the  
XX sensitivity of a plant to light  
XX Disclosure; Fig 2; 41pp; English.

XX The 55 kDa violaxanthin de-epoxidase (VDE) (AAW09875) of tobacco  
CC catalyses the de-epoxidation of violaxanthin to zeaxanthin and  
CC antheraxanthin. This system, termed energy dependent non-radiative  
CC energy dissipation or non-photochemical fluorescence quenching,  
CC reduces the quantum efficiency of photosystem II (PSII), helping to  
CC prevent PSII over-reduction and photoinhibitory damage. The amino  
CC acid sequence of the VDE was deduced from an isolated cDNA clone  
CC (AAT66242). VDE nucleic acids (see also AAT66241, AAT66243), in sense  
CC or antisense orientation, can be used in genetic constructs to  
CC modify VDE levels in plants. Increased levels result in the plant  
CC being tolerant of increased light and therefore more productive  
CC and/or more resistant to disease. Underexpression of VDE increases  
CC photosynthetic efficiency under low light. The photosensitivity of  
CC a range of crops, trees and ornamentals can be modified.  
XX Sequence 478 AA;  
SQ  
Query Match 54.9%; Score 28; DB 18; Length 478;  
Best Local Similarity 23.5%; Pred. No. 1.2e+02;  
Matches 4; Conservative 0; Mismatches 13; Indels 0; Gaps 0;  
Qy 2 CXXXXXCXXXXXCXXC 18  
Db 155 cismpacaanvaclqtc 171  
RESULT 8  
AAW64946  
ID AAY64946 standard; Protein; 79 AA.  
XX AC AAY64946;  
XX DT 01-FEB-2000 (first entry)  
XX DE Human 5' EST related polypeptide SEQ ID NO:1107.  
XX KW Human; 5' EST; expressed sequence tag; secreted protein; diagnosis;  
KW gene therapy; chromosome mapping; upstream regulatory sequence;  
KW forensic; location; development; protein synthesis; stability;  
KW regulation; identification.  
XX OS Homo sapiens.  
XX PN WO9953051-A2.  
XX PD 21-OCT-1999.  
XX PF 09-APR-1999; 99WO-IB00712.  
XX PR 09-APR-1998; 98US-0057719.  
XX PR 28-APR-1998; 98US-0069047.  
XX (GEST ) GENSET.  
XX Dumas Milne Edwards J, Duclert A, Giordano J;  
XX WPI; 2000-038446/03.  
XX DR N-PSDB; AA242560.  
XX Novel secreted protein 5' expressed sequence tag sequences used in  
FT diagnostic, forensic, gene therapy, and chromosome mapping procedures  
XX Claim 3; Page 688; 837pp; English.  
XX AA242265 to AA243075 represent novel 5' expressed sequence tag (EST)  
CC sequences, corresponding to human secreted proteins. AAY64651 to  
CC AAY65438 represent the EST-related proteins corresponding to AA242265 to  
CC AA243052. The 5' ESTs can be used for producing secreted human gene  
CC products. They can be used to identify and isolate 5' untranslated  
CC regions (UTRs) and upstream regulatory regions which control the  
CC location, development stage, rate, and quantity of protein synthesis, as



PR 05-NOV-1999; 99US-0163577.  
 PR 30-JUN-2000; 2000US-0215137.  
 PA (HUMA-) HUMAN GENOME SCI INC.  
 PI Ruben SM, Komatsoulis GA, Moore PA;  
 DR WPI: 2001-316490/33.  
 DR N-PSDB; AAE05390.  
 XX  
 XX Nucleic acids encoding 29 human secreted polypeptides, useful for  
 PT preventing, diagnosing and/or treating e.g. cancers, Parkinson's  
 PT disease and diabetic retinopathy -  
 XX  
 PS Claim 11; Page 477-479; 535pp; English.  
 XX  
 CC AAD05389-AAD05473 represent cDNAs corresponding to 29 human secreted  
 CC protein genes, and AAE01546-AAE01630 represent the proteins they encode.  
 CC AAE01631-AAE01660 represent human secreted protein fragments or variants.  
 CC The secreted proteins and their genes are useful for preventing,  
 CC treating or ameliorating medical conditions, e.g., by protein or gene  
 CC therapy. Pathological conditions can be diagnosed by determining the  
 CC amount of the new protein in a sample or by determining the presence of  
 CC mutations in the new genes. Specific uses are described for each of the  
 CC 29 genes, based on the tissues in which they are most highly expressed,  
 CC and include developing products for the diagnosis or treatment of  
 CC proliferative disorders, cancer, tumours, foetal and developmental  
 CC abnormalities, haematopoietic disorders, diseases of the immune system,  
 CC AIDS, autoimmune diseases (e.g., rheumatoid arthritis), inflammation,  
 CC allergies, neurological disorders (e.g., Alzheimer's disease,  
 CC Parkinson's disease), cognitive disorders, schizophrenia, asthma,  
 CC skin disorders (e.g., psoriasis), sepsis, diabetes, atherosclerosis,  
 CC cardiovascular disorders, angiogenic disorders, kidney disorders,  
 CC gastrointestinal disorders, pregnancy-related disorders, endocrine  
 CC disorders, and infections. The proteins can also be used to aid wound  
 CC healing and epithelial cell proliferation, to prevent skin aging due to  
 CC sunburn, to maintain organs before transplantation, for supporting cell  
 CC culture of primary tissues, to regenerate tissues, to identify their  
 CC cognate ligands or binding partners, and in chemotaxis, and can be used  
 CC as a food additive or preservative to modify storage properties.  
 CC Antibodies specific for a protein of the invention can be used in  
 CC alleviating symptoms associated with the disorders mentioned above, and  
 CC in diagnostic immunoassays e.g., radioimmunoassay or enzyme linked  
 CC immunosorbent assay (ELISA). The present sequence represents a human  
 CC secreted protein of the invention.  
 XX  
 XX Sequence 403 AA;  
 SQ  
 Query Match 52.9%; Score 27; DB 22; Length 403;  
 Best Local Similarity 23.5%; Pred. No. 1.8e+02;  
 Matches 4; Conservative 0; Mismatches 13; Indels 0; Gaps 0;  
 QY 2 CXXXXXXCXXXXXXC 18  
 DB 306 cesldcvgtdrtsc 322  
 RESULT 11  
 ID AAB88585  
 XX AAB88585 standard; Protein; 428 AA.  
 AC AAB88585;  
 XX  
 DT 04-JUN-2001 (first entry)  
 XX  
 DE Human hydrophobic domain containing protein clone HP10730 #69.  
 XX  
 KW Human; hydrophobic domain; immunosuppressant; anti-HIV; neuroprotective;  
 KW antianemic; vulnary; antiulcer; osteopathic; anti-inflammatory;  
 KW cytostatic; gene therapy; autoimmune disorder; multiple sclerosis;  
 KW HIV infection; anaemia; burn; ulcer; osteoporosis; tumour; wound healing;  
 KW inflammatory bowel disease; nutritional supplement; appetite; vaccine;

KW behavioural characteristic; immune response.  
 XX Homo sapiens.  
 OS WO200112660-A2.  
 PN 22-FEB-2001.  
 PD  
 XX 10-AUG-2000; 2000WO-JP053356.  
 PF  
 XX 17-AUG-1999; 99JP-0230344.  
 PR 07-SEP-1999; 99JP-0252551.  
 PR 01-OCT-1999; 99JP-0281132.  
 PR 22-OCT-1999; 99JP-0301624.  
 PR 04-NOV-1999; 99JP-0313877.  
 XX  
 XX (SAGA ) SAGAMI CHEM RES CENT.  
 PA (PROT-) PROTEGENE INC.  
 PA  
 PI Kato S, Kimura T;  
 XX  
 DR WPI: 2001-160059/16.  
 DR N-PSDB; AAE94465.  
 XX  
 PT Human proteins with hydrophobic domains and the DNAs which encode them  
 PT are useful for treating autoimmune disorders, burns and tumors and for  
 PT screening novel pharmaceuticals -  
 XX  
 PS Claim 1; Page 361-363; 518pp; English.  
 XX  
 CC AAF94417 to AAF94516 encode the human proteins given in AAB88557 to  
 CC AAB88606 (I) which have a hydrophobic domain. (I) have immunosuppressant,  
 CC anti-HIV, neuroprotective, antianemic, vulnerary, antiulcer,  
 CC osteopathic, anti-inflammatory and cytostatic activities, and can be  
 CC used in gene therapy. (I) can be used as pharmaceuticals and as antigens  
 CC to prepare antibodies. DNA and cDNA (II) encoding (I) can be used as  
 CC probes for genetic diagnosis and gene sources for gene therapy or for  
 CC producing (I) in large quantities. Cells containing (II) are used for  
 CC the detection of ligands or receptors corresponding to membrane or  
 CC secretory proteins and to screen small molecule novel pharmaceuticals.  
 CC Antibodies directed to (I) can be used for the detection, quantification  
 CC and purification of (I). Activities of (I) may include cytokine and cell  
 CC proliferation/differentiation function, immune stimulating or suppressing  
 CC activity, haematopoiesis regulating activity, tissue growth activity,  
 CC activity/inhibin activity, chemotactic/chemokinetic activity, haemostatic  
 CC and thrombolytic activity, receptor/ligand activity and anti-inflammatory  
 CC activity. (I) and (II) can be used to treat autoimmune disorders e.g.  
 CC multiple sclerosis, HIV infections, anaemia, burns, ulcers, osteoporosis,  
 CC inflammatory bowel disease and tumours. (I) and (II) can also be used for  
 CC wound healing, as nutritional sources or supplements e.g. as amino acid,  
 CC carbon or nitrogen source, to effect metabolism, catabolism, anabolism,  
 CC processing and utilisation of dietary fat, protein, carbohydrate,  
 CC vitamins and minerals, to effect behavioural characteristics, to affect  
 CC appetite, and can act as antigens in vaccines to raise an immune response  
 CC to the protein or another material cross-reactive with the protein.  
 XX  
 XX Sequence 428 AA;  
 SQ  
 Query Match 52.9%; Score 27; DB 22; Length 428;  
 Best Local Similarity 23.5%; Pred. No. 1.8e+02;  
 Matches 4; Conservative 0; Mismatches 13; Indels 0; Gaps 0;  
 QY 2 CXXXXXXCXXXXXXC 18  
 DB 331 cesldcvgtdrtsc 347  
 RESULT 12  
 ID AAE01633  
 XX AAE01633 standard; Protein; 430 AA.  
 AC AAE01633;

XX 17-JUL-2001 (first entry)  
XX Human gene 10 encoded secreted protein fragment, SEQ ID NO:183.  
XX  
XX Human; secreted protein; proliferative disorder; cancer; tumour;  
KW foetal abnormality; developmental abnormality; haematopoietic disorder;  
KW immune system disorder; AIDS; autoimmune disease; rheumatoid arthritis;  
KW inflammation; allergy; neurological disorder; Alzheimer's disease;  
KW Parkinson's disease; cognitive disorder; schizophrenia; asthma;  
KW skin disorder; psoriasis; sepsis; diabetes; atherosclerosis;  
KW cardiovascular disorder; angiogenic disorder; kidney disorder;  
KW gastrointestinal disorder; pregnancy-related disorder;  
KW endocrine disorder; infection; wound healing; vulnery;  
KW cell culture; chemotaxis; food additive; gene therapy;  
KW binding partner identification.  
XX  
XX Homo sapiens.  
XX WO200134623-A1.  
XX  
XX 17-MAY-2001.  
XX  
XX 01-NOV-2000; 2000WO-US30037.  
XX  
XX 05-NOV-1999; 99US-0163577.  
XX 30-JUN-2000; 2000US-0215137.  
XX (HUMA-) HUMAN GENOME SCI INC.  
XX  
XX Ruben SM, Komatsoulis GA, Moore PA;  
PI WPI; 2001-316450/33.  
XX  
XX Nucleic acids encoding 29 human secreted polypeptides, useful for  
PT preventing, diagnosing and/or treating e.g. cancers, Parkinson's  
PT disease and diabetic retinopathy -  
XX  
XX Disclosure; Page 10; 535pp; English.  
XX  
XX AAD05389-AAD05473 represent cDNAs corresponding to 29 human secreted  
CC protein genes, and AAE01546-AAE01630 represent the proteins they encode.  
CC AAE01631-AAE01660 represent human secreted protein fragments or variants.  
CC The secreted proteins and their genes are useful for preventing,  
CC treating or ameliorating medical conditions, e.g., by protein or gene  
CC therapy. Pathological conditions can be diagnosed by determining the  
CC amount of the new protein in a sample or by determining the presence of  
CC mutations in the new genes. Specific uses are described for each of the  
CC 29 genes, based on the tissues in which they are most highly expressed,  
CC and include developing products for the diagnosis or treatment of  
CC proliferative disorders, cancer, tumours, foetal and developmental  
CC abnormalities, haematopoietic disorders, diseases of the immune system,  
CC AIDS, autoimmune diseases (e.g., rheumatoid arthritis), inflammation,  
CC allergies, neurological disorders (e.g., Alzheimer's disease,  
CC Parkinson's disease), cognitive disorders, schizophrenia, asthma,  
CC skin disorders (e.g., psoriasis), sepsis, diabetes, atherosclerosis,  
CC cardiovascular disorders, angio-genic disorders, kidney disorders,  
CC gastrointestinal disorders, pregnancy-related disorders, endocrine  
CC disorders, and infections. The proteins can also be used to aid wound  
CC healing and epithelial cell proliferation, to prevent skin aging due to  
CC sunburn, to maintain organs before transplantation, for supporting cell  
CC culture of primary tissues, to regenerate tissues, to identify their  
CC cognate ligands or binding partners, and in chemotaxis and can be used  
CC as a food additive or preservative to modify storage properties.  
CC Antibodies specific for a protein of the invention can be used in  
CC alleviating symptoms associated with the disorders mentioned above, and  
CC in diagnostic immunoassays e.g., radioimmunoassay or enzyme linked  
CC immunosorbent assay (ELISA). The present sequence represents a human  
CC secreted protein fragment referred to in the disclosure of the invention.  
XX  
XX Sequence 430 AA;

Query Match 52.9%; Score 27; DB 22; Length 430;  
Best Local Similarity 23.5%; Pred. No. 1.8e+02;  
Matches 4; Conservative 0; Mismatches 13; Indels 0; Gaps 0;  
Qy 2 CXXXXXXCXXXXXXC 18  
Db 333 cesldlcvygtcrtsc 349  
RESULT 13  
AAB95002  
ID AAB95002 standard; Protein; 741 AA.  
XX  
XX AAB95002;  
XX 26-JUN-2001 (first entry)  
XX Human protein sequence SEQ ID NO:16644.  
XX  
XX Human; primer; detection; diagnosis; antisense therapy; gene therapy.  
XX Homo sapiens.  
XX EP1074617-A2.  
XX  
XX 07-FEB-2001.  
XX  
XX 28-JUL-2000; 2000EP-0116126.  
XX  
XX 29-JUL-1999; 99JP-0248036.  
XX 27-AUG-1999; 99JP-0300253.  
XX 11-JAN-2000; 2000JP-0118776.  
XX 02-MAY-2000; 2000JP-0183767.  
XX 09-JUN-2000; 2000JP-0241899.  
XX  
XX (HELI-) HELIX RES INST.  
XX  
XX Ota T, Isogai T, Nishikawa T, Hayashi K, Saito K, Yamamoto J;  
XX Ishii S, Sugiyama T, Wakamatsu A, Nagai K, Otsuki T;  
XX WPI; 2001-318749/34.  
XX  
XX Primer sets for synthesizing polynucleotides, particularly the 5602  
PT full-length cDNAs defined in the specification, and for the detection  
PT and/or diagnosis of the abnormality of the proteins encoded by the  
PT full-length cDNAs -  
XX  
XX Claim 8; SEQ ID 16644; 2537pp + CD ROM; English.  
XX  
XX The present invention describes primer sets for synthesising 5602  
CC full-length cDNAs defined in the specification. Where a primer set  
CC comprises: (a) an oligo-dT primer and an oligonucleotide complementary  
CC to the complementary strand of a polynucleotide which comprises one of  
CC the 5602 nucleotide sequences defined in the specification, where the  
CC oligonucleotide comprises at least 15 nucleotides; or (b) a combination  
CC of an oligonucleotide comprising a sequence complementary to the  
CC complementary strand of a polynucleotide which comprises a 5'-end  
CC sequence and an oligonucleotide comprising a sequence complementary to a  
CC polynucleotide which comprises a 3'-end sequence, where the  
CC oligonucleotide comprises at least 15 nucleotides and the combination of  
CC the 5'-end sequence/3'-end sequence is selected from those defined in  
CC the specification. The primer sets can be used in antisense therapy and  
CC in gene therapy. The primers are useful for synthesising polynucleotides,  
CC particularly full-length cDNAs. The primers are also useful for the  
CC detection and/or diagnosis of the abnormality of the proteins encoded by  
CC the full-length cDNAs. The primers allow obtaining of the full-length  
CC cDNAs easily without any specialised methods. AAB03166 to AAB13628 and  
CC AAB13633 to AAB18742 represent human cDNA sequences; AAB92446 to  
CC AAB95893 represent human amino acid sequences; and AAB13629 to AAB13632  
CC represent oligonucleotides, all of which are used in the exemplification  
CC of the present invention.  
XX  
XX Sequence 741 AA;



Query Match 52.9%; Score 27; DB 22; Length 741;  
 Best Local Similarity 23.5%; Pred. No. 2e+02;  
 Matches 4; Conservative 0; Mismatches 13; Indels 0; Gaps 0;

QY 2 CXXXXXXCXXXXXXC 18  
 | | | | |  
 Db 328 cadedcaagncpsbhc 344

## RESULT 14

AAR47861  
 ID AAR47861 standard; protein; 4544 AA.

XX AC AAR47861;

XX DT 20-JUL-1994 (first entry)

XX DE Alpha 2-Macroglobulin/LDL-receptor related protein.

XX KW alpha-2 macroglobulin; Low Density Lipoprotein; LDL; receptor family;  
 KW LDL receptor related protein; LRP; small rhinovirus receptor; deriv;  
 KW minor Rhinovirus; alpha2MR/LRP.

XX OS Homo sapiens.

XX FH Key Location/Qualifiers

XX FT Misc-difference 211..260 /note= "50 residues not shown in SEQ.ID.No.4"

XX FT Misc-difference 1990 /note= "Residue not shown in SEQ.ID.No.4"

XX FT Misc-difference 3050 /note= "Residue not shown in SEQ.ID.No.4"

XX PN WO9401553-A.

XX PD 20-JAN-1994.

XX PF 05-JUL-1993; 93WO-EP01728.

XX PR 08-JUL-1992; 92DE-4222385.

XX PR 22-AUG-1992; 92DE-4227892.

XX PR 19-FEB-1993; 93DE-4305063.

XX PA (BOEH ) BOEHRINGER INGELHEIM INT GMBH.

XX PI Blaas D, Gruenberger M, Hofer F, Huettinger M, Kerjaschki D;

XX PI Kowalski H, Kuechler E, Machat H;

XX DR WPI; 1994-035060/04.

XX PT New peptide derivs. of receptor for rhinovirus - of the small

XX PT receptor gp., and derived DNA, transformed cells and antibodies,

XX PS Claim 5; Fig 2; 76pp; German.

XX CC Functional derivatives of members of the Minor Rhinovirus Receptor  
 CC group are claimed. The alpha-2 Macroglobulin/LDL-receptor related  
 CC protein of sequence AAR47861 (Herz et al. EMBO J. 7;4119-4127 (1988))  
 CC is a preferred parent receptor. The derivs, which are preferably  
 CC soluble, extracellular forms of the native receptors, are useful  
 CC for treating and preventing viral (esp. rhinoviral) infections.  
 CC N.B. the SEQ.ID. listing includes a sequence (no.4) which differs  
 CC from the alpha2-MR/LRP sequence as indicated in the Features Table.

XX SQ Sequence 4544 AA;

Query Match 52.9%; Score 27; DB 15; Length 4544;  
 Best Local Similarity 23.5%; Pred. No. 2.9e+02;  
 Matches 4; Conservative 0; Mismatches 13; Indels 0; Gaps 0;

QY 2 CXXXXXXCXXXXXXC 18  
 | | | | |  
 Db 2980 cadvdecsttfpcsrc 2996

## RESULT 15

AAR60517  
 ID AAR60517 standard; Protein; 4544 AA.

XX AC AAR60517;

XX DT 22-MAR-1995 (first entry)

XX DE Human alpha-2-MR.

XX KW Serine protease; Factor-Xa; recognition site;

XX KW fusion protein cleavage; protein folding; alpha-2-MR;

XX KW alpha-2-macroglobulin receptor/low density lipoprotein receptor.

XX OS Homo sapiens.

XX PN WO9418227-A.

XX PD 18-AUG-1994.

XX PF 04-FEB-1994; 94WO-DK00054.

XX PR 04-FEB-1993; 93DK-0000130.

XX PR 05-FEB-1993; 93DK-0000139.

XX PR 03-DEC-1993; 93WO-GB02492.

XX PA (DENZ-) DENZYME APS.

XX PI Etzerodt M, Holtet TL, Thogersen HC;

XX DR WPI; 1994-279681/34.

XX PT Refolding of polypeptide molecules - using a cyclic process  
 PT involving denaturing and renaturing conditions to produce a  
 PT correctly folded prod

XX PS Disclosure; Page 131-146; 202pp; English.

XX CC Various domains and domain clusters of human alpha-2-MR protein  
 CC have been PCR amplified using the primers given in AAQ71252-65.

XX SQ Sequence 4544 AA;

Query Match 52.9%; Score 27; DB 15; Length 4544;  
 Best Local Similarity 23.5%; Pred. No. 2.9e+02;  
 Matches 4; Conservative 0; Mismatches 13; Indels 0; Gaps 0;

QY 2 CXXXXXXCXXXXXXC 18  
 | | | | |  
 Db 2980 cadvdecsttfpcsrc 2996

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